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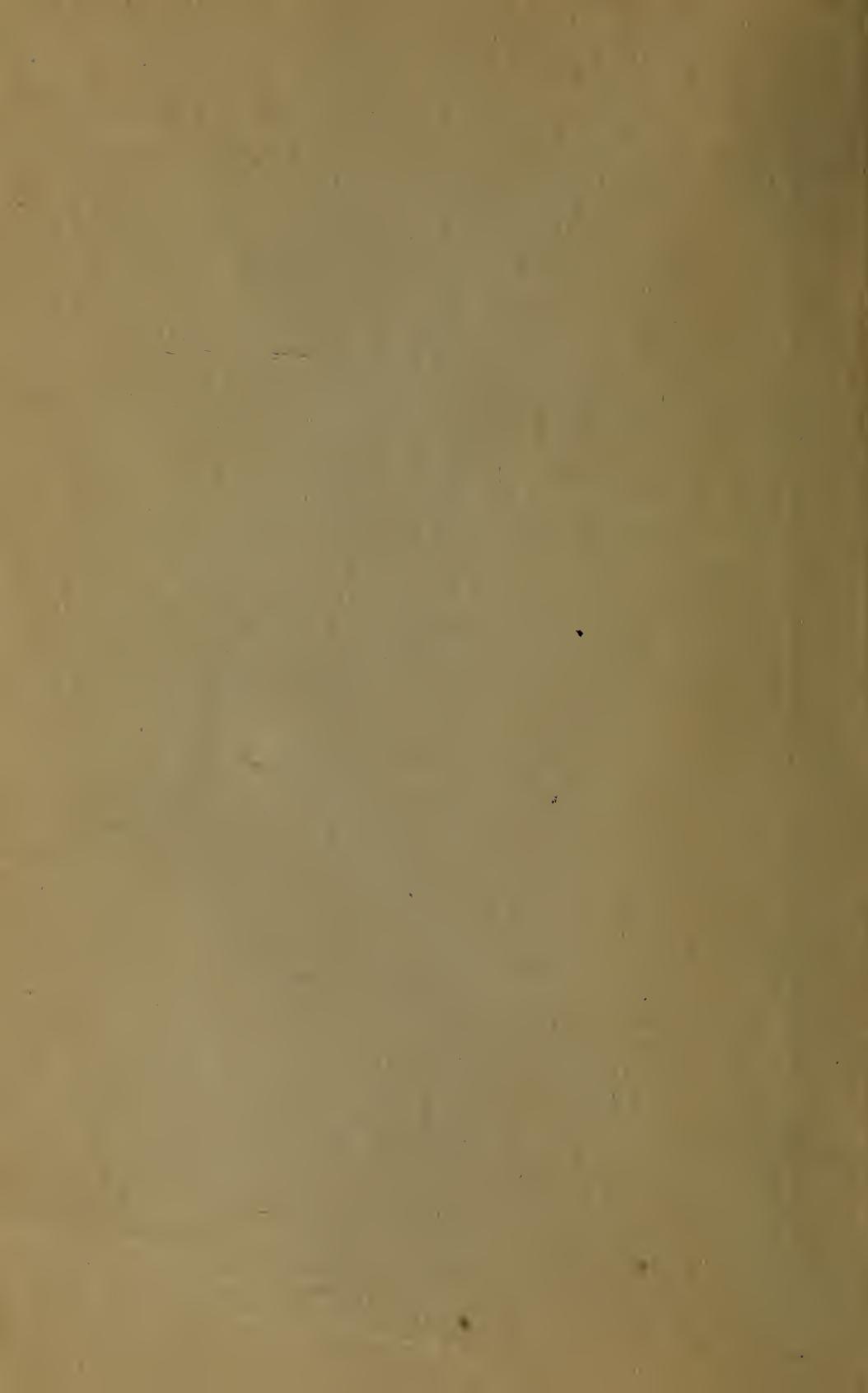
and the

ISLANDS of the PACIFIC OCEAN

T. J. McEVOY, Publisher

6 Third Avenue

Brooklyn, N. Y.



No. 4

McEVOY'S ESSENTIALS OF GEOGRAPHY

A U S T R A L I A

and the
ISLANDS of the PACIFIC OCEAN

By Thomas J. McEvoy

Spelling revised according to the decisions of United States
Geographic Board

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AUSTRALIA
AND
THE ISLANDS OF THE PACIFIC OCEAN

CHAPTER I
TREATMENT AS A WHOLE

1. NAMES DISTINGUISHED. Oceania or Oceanica, is the general name for all that portion of the earth embracing most of the islands in the Pacific Ocean and the Indian Ocean. Three divisions of Oceania are generally given: West Oceania, or Malaisia; Central Oceania, or Australasia, or Melanesia; and East Oceania, or Polynesia.

2. THE CENTRAL GROUP. Australasia includes Australia, Tasmania, New Guinea, New Zealand, New Caledonia, the New Hebrides, the Solomon Islands, New Ireland, New Britain, the Admiralty Islands, the Arru Islands, the Fiji Islands, and a few other smaller islands. The name Melanesia, "black islands," is applied to the whole of Australasia.

AUSTRALIA

3. LOCATION. Australia is in the southeastern part of the eastern hemisphere; southeast of Asia, east of Africa, east of South America, and southeast of North America.

Latitude is 10° to 40° south; longitude is 113° to 153° east.

The zones are torrid and south temperate. The Tropic of Capricorn divides the country into two nearly equal parts.

The location with reference to other continents may be imagined when we state that the distance from New Zealand is 1,000 miles, from Asia 2,000 miles, from Africa 4,500 miles, and from South America 7,500. Think of 3,000 miles as the distance from east to west across the United States, and then use this measuring unit for comparison.

4. BOUNDARIES. Australia is the only continent surrounded by water. On the north: Indian Ocean, Timor Sea, Arafura Sea and Torres Strait; on the east: Coral Sea, Tasman Sea and Pacific Ocean; on the south: Bass Strait and Pacific Ocean; on the west: Indian Ocean.

5. SIZE. The largest island in the world and at the same time the smallest continent. It is 2,500 miles from east to west, and 1,950 miles from north to south; area is three million square miles, or nearly the same as Europe or United States without Alaska.

6. SHAPE OR FORM. Elliptical, with longer dimension east to west. Compare with United States.

Elliptical is from ellipse. What is an ellipse?

7. COAST LINE. Nearly 8,000 miles of regular coast deeply indented only in the northern shore. Canons break the eastern shore, and some spread into estuaries which are excellent harbors. The southern and the western coasts are uniform, but the northwestern is broken. Verify these statements by locating gulfs, bays and sounds.

The *Great Barrier Reef* lying parallel with the north-eastern coast is the largest coral formation in the world. This reef is a series of coral formations extending 1,200 miles. Its greatest width of 100 miles is in the south near Rockhampton; as it narrows towards the north, it is only ten to fifteen miles from coast. At low tide, the surface of the reef is above the water, and at other times the reef causes violent breakers as the Pacific Ocean dashes against the rocks. Between the reef and the mainland is a calm sea which may be entered through some of the channels in the Great Barrier Reef. Steamers and sailing vessels use this inner sea by day, but navigation by night is too dangerous on account of many coral reefs. Even Torres Strait, which is 100 miles wide between Cape North and New Guinea, is not easily navigated on account of the reefs and the sandbanks.

8. GULFS AND BAYS. North: Roebuck Bay, Collier Bay, Admiralty Gulf, Cambridge Gulf, Port Darwin, Gulf of Carpentaria. East: Princess Charlotte Bay, Rockingham Bay, Broad Sound, Moreton Bay, Bateman Bay. South: Encounter Bay, Spencer Gulf, Great Australian Bight. West: Geographe Bay, Shark Bay, Exmouth Gulf.

King George's Sound, about 200 miles east of Cape Leeuwin, is a good natural harbor. Port Jackson, the harbor of Sydney, is another natural inlet of great beauty and usefulness.

9. SEAS. Timor and Arafura Seas on the northern coast, Coral and Tasman Seas on the eastern coast.

10. STRAITS. Torres Strait, touching the northern

part of Cape York Peninsula in the northeastern part of Australia, connects Arafura Sea and Coral Sea.

Bass Strait connects Tasman Sea and the Pacific Ocean, and separates Tasmania from the southeastern part of Australia.

11. PENINSULA. Cape York is a projection in northeastern part. It extends northward between Gulf of Carpentaria and Coral Sea.

12. CAPES. Boileau, Leveque, Londonderry and York on the northern coast; Upstart, Sandy and Smoky on the eastern coast; Howe, southeastern point; Otway, Catastrophe and Arid on the southern coast; Leeuwin and Northwest Cape on the western coast.

13. ISLANDS. See list in the first paragraph of this book. The most important islands will be treated separately.

14. SURFACE OF AUSTRALIA. Three distinct areas are similar to what was observed in Africa: lowlands near the coast north, east and west; mountain ranges forming divides; interior highlands, some of which may be made productive by irrigation. The belt of fertile land near the coast varies from 30 to 300 miles in width. In the east the *Dividing Range* stands as a barrier between the coastal lands and the great interior plains. This range, known as the Australian Alps, runs parallel with the coast from the north to the southeastern part of Australia. Some of the peaks are 7,000 feet high. The mountains in northern and western parts are not so high. The interior plains have many hills and low mountains, but not many rivers.

15. MOUNTAINS. Australia has highlands but not many distinctive mountains. The Dividing Range is in some places a plateau with smaller mountain ranges running in different directions. The only true mountain is the *Australian Alps*, a portion of the Dividing Range nearly 400 miles long. The highest peak is Mt. Townsend, named in honor of the surveyor. This peak, a little more than 7,000 feet high, belongs to a group of elevations in New South Wales.

Dense woods cover the Australian Alps, excepting the highest peaks.

The ranges in the central part are McDonnell, Ashburton and Musgrave.

16. DRAINAGE. The study of climate and the surface explains the peculiar nature of the rivers. The rivers of the narrow eastern slope are short and rapid, but they are well supplied with water all of the year. West of the Dividing Range the rivers flow west or southwest toward the central lands which were once the bed of the ocean, and all of the rivers, except the Murray, end in sands or swamps, or become part of shallow salt lakes. In the west and in the north there are a few large rivers.

17. RIVERS. The Murray River and its branches form the principal river basin of the continent. The area of this basin is one-third the size of the Mississippi basin.

The *Murray River* rises in the Australian Alps, has its course partly in New South Wales and partly in Victoria, and enters the sea. In its course it flows through a shallow body of water named Lake Alexandrina and a shallow lagoon called Coorong. The tributaries of the Murray are

the Murrumbidgee and the Darling, each of which has feeders from the Australian Alps. These rivers together would rank in length with the large rivers of the world, since they are more than 1,000 miles in length, but the climate causes scarcity of water. The Darling becomes simply a chain of small lakes during the summer, but the feeders from the mountains sustain the Murray.

Notwithstanding the effects of climate, this system is useful for commerce. Steamers of shallow draft go up the Murray to Albury, 1,700 miles from its mouth, the place where the railroad from Melbourne to Sydney crosses the river. The Murrumbidgee can be navigated sixty miles east of Albury, excepting in very dry seasons; and the Darling is navigable to Bogan, a point 1,000 miles above the place where the Darling flows into the Murray. All of this river navigation, though stimulating to inland commerce, fails to connect with the sea by direct route, because the Coorong is separated from the sea by a bar of sand dunes. Transportation by land is required.

The rivers of the interior of Australia are water courses rather than rivers as known in other continents. The courses are filled during parts of the year but the water is soon lost in the desert sands, evaporated by the sun or mingled in the shallow salt lakes. The *Diamantina*, which enters South Australia from Queensland, illustrates the disappearing type; and the Barcoo River, or Cooper's Creek, is the largest feeder for salt lakes. It flows into Lake Eyre in South Australia. Other important salt lakes fed in this way are Torrens and Gairdner in South Australia and Amadeus in West Australia.

The rivers of the Australian plains serve two purposes

—navigation and the watering of sheep and cattle; the third use is irrigation, a service likely to produce large returns on account of the gradual slope of the land.

The names of all the rivers need not be learned, but several are given to be thought of in connection with life in Australia.

In the north the Victoria's bed is a channel cut 300 feet into the sandstone, half a mile wide in some places, and from 500 to 300 feet deep. It empties into Cambridge Gulf by an estuary 20 miles wide and fifty feet deep. Prince Regent, Glenelg and Roper are important.

Queensland has Burdekin, Brisbane and Fitzroy Rivers; the east coast has Hawkesburg, Hunter, Shoalhaven, Clarence, Macleay and Manning; Victoria, in southeastern Australia, has Glenelg, Avoca, Hopkins, Goulburn, Loddon, Wannon and Wimmera, all small but of much importance in irrigation and mining.

The Swan River is in West Australia.

18. LAKES. Eyre, Torrens and Gairdner in South Australia; Amadeus in West Australia.

19. CLIMATE. Two zones, torrid and south temperate. What inference about climate? Australia is in the belt of the southeast trade winds. What conclusions?

The absence of high mountains in the interior causes a lack of rainfall, except along the eastern lowlands. The result is desert areas, from which hot winds and dust come, but not to the injury of health. In general, the climate of Australia is extremely healthful. The tropical heat of the northern belt is modified by the rain from the monsoons. The eastern belt is fortunately located.

The ocean winds bearing moisture from the Pacific blow against the Dividing Range, causing condensation and copious precipitation. Thus the eastern slopes are plentifully watered during all seasons. West of the Dividing Range, the prevailing winds are seawards or westerly; and although the tendency of breezes is inland during the summer, the intense heat prevents condensation. The climate of the interior is, therefore, hot and dry. Variations of droughts and floods are causes of uncertainty in farming and cattle raising, but irrigation is likely to overcome some of the adverse conditions. Parts of the south and the southwest have rains in autumn and winter.

The *seasons* in the tropical belt are rainy in summer and dry in winter; in the temperate belt, four seasons.

The uniformity of climate is remarkable. As the lowlands never suffer from severe frost or winter snow, shelter does not have to be provided for horses and cattle. Snow and ice are found in the higher regions of the southern mountains during the winter months of June, July and August.

20. OCEAN CURRENTS AFFECTING CLIMATE. The *South Equatorial Current* flows westward along the entire northern coast of Australia. The warm water from this current has a noticeable effect on the northern coast. What is the result?

The *East Australian Current* flows southward along the eastern coast. This current coming from the equatorial region is warm. Effect on climate? This current, twenty to sixty miles from the coast, is an advantage to ships going southward, but ships passing through Bass Straight

northward keep more than sixty miles from shore to avoid the strong movement.

The *West Wind Drift* carries a current from the Indian Ocean and the Pacific Ocean eastward along the southern coast. This current coming from the temperate regions is cool. Effect on climate?

The *West Australian Current* flows northward along the western coast. As this current comes from a temperate region, it is a cool current. Effect on climate?

21. VEGETATION. Soil and climate produce vegetation peculiar to Australia alone. Among the trees are many kinds of eucalyptus, or gum trees, some of which are larger than the giant trees of California. The gum trees are not found in dense forests, but they grow thinly scattered over large areas. Their roots are very long for the purpose of getting moisture from great depths; their leaves are narrow and they hold them vertically with only the edges toward the sun. Acacias, another species of gum tree, are numerous. They, too, adapt themselves to climate by having flattened leaf-stalks instead of leaves. Why? Evergreen trees are common in sections favored by moisture, and the tropical ferns, palms and orchids abound. Hard woods grow in abundance but building timber has to be imported. Jarrah wood paving blocks are exported.

The forests become thinner as rainfall decreases. The arid interior has thickets of bushes or scrub trees with foliage to resist evaporation. Many of the growths are so dense that penetration is difficult or impossible; and in the more arid regions, many of the scrub trees have thorns or spines. The spinifex is a dangerous shrub in the deserts of central and western Australia.

The southwestern part of the United States has successfully introduced Australian grasses suited to arid regions. An excerpt from page 523 of Chisholm's *Handbook of Commercial Geography* has information worth knowing.

"The native grasses of Australia are numerous and nutritous, and among these the tall kangaroo grass is notable for its power of withstanding long drought. And even where the climate is so dry that grasses do not thrive, there are certain herbs which will still thrive and yield good food for sheep and cattle. The most valuable of all these is the salt bush, an ugly grey shrub about two feet high, which, as its name indicates, flourishes on a saline soil, such as is apt to be found where rain is scarce and evaporation great, but which is all the better for sheep on that account, since the sheep are fed on a saline herbage are reported to furnish the finest wool, and are free from certain diseases to which they are liable in other districts."

The cultivated vegetation includes wheat, maize, barley, the vine, the silk-mulberry, and, in the north, cotton and sugar cane.

22. ANIMALS. Australia has no fierce animals like bears, wolves, lions and tigers. Other continents have mammals, or animals that nourish their young with milk; Australia has marsupials, animals with pouches for carrying their young. The Latin word *marsupium* means pouch. The kangaroo is the best representative of the marsupials, but the opossum is best known in America.

"The native Australian dog, the dingo, is not a marsupial, but was probably introduced at some remote date by man. Rabbits, which have been introduced more recently, have multiplied to such an extent as to have become

a real plague, through the ravages which they commit in the pastures. There are no monkeys even in the tropical parts of Australia, but parrots and cockatoos abound, and a running bird, the emu, resembling the ostrich of Africa and the rhea of South America, scours the plains. Alligators are found in all the rivers within the tropics."

Animals from other continents have not migrated to Australia on account of the intervening distance. These are the principal ones, then, to be associated with Australia: kangaroo, echidna, koala, emu, platypus, lyre bird, apteryx, cassowary, black swan, Tasmanian wolf; rabbit and dingo by introduction.

23. MINERALS. Australia has vast mineral wealth, much of which has not been fully developed. First in importance is gold, which was discovered in 1851. The production since that date is valued at a billion and a half dollars. The best mines are in Victoria, but New South Wales and Queensland have also yielded a considerable amount. Australia possesses also silver, copper, tin, lead, zinc, antimony, mercury and plumbago in abundance, besides coal and iron. Various precious stones are found, as garnet, ruby, topaz, sapphire, and even the diamond. Of building stone there are granite, limestone, marble and sandstone.

24. PEOPLE. The natives are known as Bushmen. Their characteristics and condition of life are given in the following excerpt from Volume I of *People's Cyclopedias*:

"The natives belong to the Australian negro stock, and are sometimes considered the lowest as regards intelligence in the whole human family, though this is doubtful. They

are believed to number about 60,000, exclusive of those in the unexplored parts. They are of a dark-brown or black color, with jet-black curly, but not wooly hair, of medium size, but inferior muscular development. In the settled parts of the continent they are inoffensive, and rapidly dying out. They have no fixed habitations; in the summer they live almost entirely in the open air, and in the more inclement weather they shelter themselves with bark erections of the rudest construction. They have no cultivation and no domestic animals. Their food consists of such animals as they can kill and no kind of living creature seems to be rejected, snakes, lizards, frogs, or even insects being eaten, often half raw. They are ignorant of the potter's art. In their natural condition they wear little or no clothing. They speak a number of different languages or dialects. The women are regarded merely as slaves, and are frightfully maltreated. They have no religion; they practice polygamy, and are said sometimes to resort to cannibalism, but only in exceptional circumstances. They are occasionally employed by the settlers in light kinds of work, and as horse-breakers; but they dislike continuous occupation, and soon give it up. The weapons of all the tribes are generally similar, consisting of spears, shields, boomerangs, wooden axes, clubs, and stone hatchets. Of these the boomerang is the most singular, being an invention confined to the Australians."

The civilized people who are developing the island are mainly of British origin, but many Germans are there. Chinese and Polynesians from the islands of the Pacific are employed as laborers in the tropical regions.

25. HISTORY. Australia was known as New Holland

three hundred years ago, but no attempt at colonization was made until Captain Cook explored the east coast and claimed the land for England. Britain sent her first shipload of convicts to Australia, and they arrived in Botany Bay, New South Wales, early in 1788. The colony remained a penal territory until 1839, although the coming of free settlers increased steadily after 1821. Rapid increase followed the discovery of gold in 1851.

26. OCCUPATIONS. Ranching and agriculture are the leading occupations; mining is very important, and is likely to become greater; manufacturing is developing well in various lines, such as woolen mills, flour mills, saw mills, tanneries, and machine shops; pearl fishing is valuable on the north coast.

27. EXPORTS. Wheat, wool, gold, copper, silver, frozen meats, butter, hides, tin, and jarrah wood.

28. IMPORTS. Manufactured articles, such as clothing, cotton goods, woolen goods and linen goods; articles made of iron and other metals, such as cars, machinery and agricultural implements; timber for building; oil.

29. DIVISIONS.

STATE	CAPITAL
Victoria	Melbourne
New South Wales	Sydney
Queensland	Brisbane
South Australia	Adelaide
Western Australia	Perth
Tasmania	Hobart

The new federal capital of Australia is Canberra in the federal district of Yass Canberra, set off from New South Wales.

CHAPTER II

THE AUSTRALIAN COMMONWEALTH

30. IMPERIAL ACT OF 1900. The Australian Commonwealth was constituted under an act of the British Parliament in 1900, and was proclaimed at Sydney, January 1, 1901. The Commonwealth includes Victoria, New South Wales, Queensland, South Australia, Western Australia, and Tasmania.

31. GOVERNMENT. "The constitution dates from the Commonwealth Australia Act, 1900, and provides for the inclusion of other colonies and British possessions. The Senate is composed of 36 members, 6 from each original state, chosen directly by the people of each state voting as one electoral unit (though Queensland has power to divide the state into divisions). Senators hold office for six years, provided there be no dissolution of the House. Immediately after a dissolution, half the number have only a three years' tenure. The senators are elected for each state every three years. The two Houses have equal powers, except that the Senate cannot originate or amend bills relating to revenue or taxation. The House of Representatives consists of 75 members elected by popular vote for three years. The number of members are to bear, as far as practicable, the constant ratio of two to one to the Senate. New South Wales has 27 members, Victoria 21, Queensland 10, South Australia 7, Western Australia 5, and Tasmania 5. To be eligible a member of either House must be 21 years of age, an actual or qualified

elector, natural born or at least five years naturalized, and a resident of three years within the Commonwealth. The Federal Parliament has powers to make laws for taxation, trade, bounties, loans, postal service, naval and military matters, currency, banking, marriage, divorce, old age pensions, immigration and emigration, etc. The State Parliaments, outside these limits, have the same sovereign authority as before. State governors are Crown nominees, and they still communicate directly with the British Colonial Office on state business. The Executive Council is composed of 7 ministers, whose combined salaries may not exceed £12,000 a year. The Governor General receives £10,000 per annum. Interstate trade and intercourse are free; and there is a uniform tariff for customs and excise. The Federal Parliament sits at Melbourne, but Canberra in the Federal district of Yass Canberra, New South Wales, has been selected as the capital of the Commonwealth and, unlike Ottawa, is federal territory in no way controlled by state authority."

32. VICTORIA. The smallest division, situated in the southeastern part of Australia. It was a part of New South Wales until 1851. Surface is diversified by Australian Alps, slopes and plains. The plains have pasturage suitable for horses and cattle. Agriculture is aided by an irrigation project which affects a quarter of a million acres. The crops are raisin and currant grapes, oranges, figs, apricots, peaches, plums, sorghums, tobacco, fibre-plants and wheat. Gold was the chief stimulus in the colony, but the decrease of supply turned many miners to farming. Coal is mined.

Melbourne, the largest city in Australia, is the capital

of Victoria. It is on the Yarra, a river navigable up to the city by vessels of medium size. Ocean steamers may enter Hobson's Bay, the upper part of Port Phillip, on which Port Melbourne and Williamstown are situated. Large export of wool; imports are manufactured goods. Connected by railway system with all the important towns of the continent.

33. NEW SOUTH WALES. The oldest colony, and still noted for abundance of gold, copper, iron, coal, silver, lead and tin. Agriculture ranks with mining, and large returns are made in corn, wheat and wool.

The capital of New South Wales is Sydney, situated on the magnificent harbor of Port Jackson. The older streets are narrow, but the modern streets are broad and beautiful. Steam tramways and ferries give good service to all parts of the city and to suburban towns. The entrance from the Pacific Ocean to Port Jackson, four miles northeast of Sydney, is a mile wide and strongly fortified. The exports are wool, tallow, hides, preserved meats, tin, copper and coal; the imports are grain, tea, coffee, sugar, wine, spirits, furniture, ironware, machinery, cotton and woolen goods.

34. QUEENSLAND. Noted for copper, tin, gold, iron, and coal. The surface is mainly tableland 1,000 to 2,000 feet high. This condition favors agreeable climate. Excellent pasture grasses make ranching profitable. Cotton, sugar cane, coffee, ginger, arrowroot and fruits are among the varied products.

Brisbane, the capital of Queensland, is 500 miles north of Sydney. It is on both sides of the Brisbane River, at the head of navigation for large ocean vessels. Rock-

hampton, on the Fitzroy River, is a rich export center for gold, copper, and farm products.

35. SOUTH AUSTRALIA. This is the principal colony for wheat and also for valuable copper mines; wine, olives and gold are second in importance. Settlements are mostly around Spencer Gulf and Gulf of St. Vincent, temperate regions supplied with rain. Irrigation by artesian wells near Lake Eyre is practicable, and other means are used in other dry sections. Grasslands are extensive.

The capital of South Australia is Adelaide on the east side of the Gulf of St. Vincent. Seven miles from the city is Port Adelaide, where an outer harbor thirty feet deep was opened in 1908 to accommodate large ocean vessels. Adelaide is the mail port for all vessels on the southern route. Good railroad connections.

36. WESTERN AUSTRALIA. Large but not yet well populated. Some desert tracts, but large fertile areas are yielding to irrigation. Gold, silver, lead, copper and iron-stone are valuable. Extensive pastures, hard timber, and pearl fishing are three sources of wealth for settlers.

Perth, the capital of Western Australia, is on the Swan River, twelve miles from Freemantle, its port. Albany is on King George's Sound, 260 miles from Perth.

37. TASMANIA. An island separated from southeastern Australia by Bass Strait. Area a little larger than West Virginia. The indented coast has excellent harbors. Soil and climate are favorable to agriculture. Wheat, barley, oats, potatoes, beans, peas and hops are cultivated. Preserving fruits is a leading industry on account of plentiful yield of plums, grapes, cherries, quinces, mulberries,

peaches, almonds, apricots and walnuts. Mineral resources include gold, silver, copper, iron, tin, coal, slate and limestone. Smelting works for iron are at Hobart. Exports are wool, gold, tin, timber, bark, hides and fruit.

Hobart, the capital of Tasmania, is noted for its good harbor at the southern end of the island. Launceston is the port nearest to Australia.

CHAPTER III

THE COMMERCE OF AUSTRALIA

38. ARTICLES OF COMMERCE. Principal products are wool, minerals, cereals, and animal products. The exports are wool, minerals, wheat, hides, meat, and butter. The imports are machinery, metal manufactures, clothing, cotton and woolen goods, and kerosene oil.

39. WOOL. Ranks first in the world in producing wool, much of it being merino of excellent quality. Nearly ninety million sheep, more than half of them in New South Wales. Australia produces one-third of the wool-clip of the world. Two-thirds of it goes to Great Britain to be manufactured; France, Germany and Belgium secure nearly all the rest. The United States gets very little.

40. CATTLE. Ten million on the ranches. The introduction of cold-storage plants in ships led to heavy exporting of meat. Mutton is the heaviest shipment. Butter is exported in the same modern way.

41. MINERALS. Gold gives Australia rank next to Africa and the United States. Copper, silver, lead, tin and coal are exported. Coal is shipped to Asia and California.

42. FRUITS. Grapes for wine and raisins are extensively cultivated in Victoria and New South Wales. Australian claret is considered as good as California claret. Bananas and oranges grow in the tropical regions. See products of Tasmania.

The three important centers of vineyard production are around Adelaide and to the northward in south Australia,

in the semiarid northwestern section of Victoria, and in the upper Murray River Valley.

43. CEREALS. New South Wales ranks first and South Australia second. Wheat is grown on the plains between the Blue Mountains and the interior desert, along a comparatively narrow belt in which the mean annual rainfall ranges from 10 to 25 inches. Other climatic limitations of the continent for wheat growing are indicated in the absence of the crop from the more tropical portions of the Commonwealth and from the moist coastal belt on the southeast. Yet more than 50 per cent of the cropped land of Australia is in wheat.

44. RAILROADS. All the important coast towns are connected with one another, and several lines 300 to 600 miles long run to the interior places. The total railroad mileage is nearly 20,000. The country roads are good, and electric railways are excellent.

45. COMMERCIAL CITIES. Melbourne is the Metropolis. Sydney is the principal receiving port. Brisbane, a market for wool and coal, has cable connection with British Columbia. Perth and Adelaide are ports for steamships by way of the Suez Canal. The markets of Tasmania are Launceston and Hobart.

CHAPTER IV

OTHER ISLANDS OF THE PACIFIC OCEAN

46. PRINCIPAL GROUPS.

New Zealand	Tonga or Friendly Islands
Fiji Islands	Samoan Islands
New Guinea	Hawaiian Islands
German Possessions	The Philippine Islands
French Possessions	East Indies

NEW ZEALAND

47. LOCATION. Southeast of Australia, 1,200 miles distant. Longitude, 166° to 178° east; latitude, 34° to 47° south. Surrounded by Tasman Sea and the Pacific Ocean.

48. EXTENT AND CONTOUR. Three islands in the principal groups extending nearly 1,000 miles: North Island, South or Middle Island, Stewart Island. Others are Auckland Islands to the south, Chatham to the east, and Kermadec to the north.

The coast line is high and rocky with a few inlets like fiords in the southwest. The surface of North Island is gently undulating, with a number of volcanic peaks. South Island has no volcanoes, but has a ragged range of the Southern Alps along the western coast, with magnificent scenery. The rivers are small and numerous, but they are not good for navigation. Why? Cook Strait connects Tasman Sea and the Pacific Ocean, and separates North Island from South Island. Foveau Strait is be-

tween South Island and Stewart Island. The bays are Hawkes and Plenty.

49. OCCUPATIONS. Stock raising, agriculture and mining. There are thirty million sheep, and more than half the exports is wool and frozen mutton. Dairying produces annual exports of butter and cheese worth ten million dollars. The minerals are gold, silver and coal. Gold ranks second to wool among the exports. Apples, grapes and other fruits are grown. It is said that New Zealand produces every English grain, grass, and fruit. The flax, a kind of marsh hemp, yields fiber for ropes. The large forests have many trees suitable for building houses and ships. The kauri pine furnishes the kauri gum of commerce, one of the imports to the United States. Quantities of the gum are found in the ground where the kauri pine trees used to grow. This fossil kauri makes a varnish as good as Japanese lacquer.

Manufacturing includes boots, shoes, clothing, machinery, lumber and flour. The imports are clothing, iron and steel goods, beverages and foods. The exports are wool, frozen meat, kauri gum (resin), dairy products, gold, hides, horns, bones and a native grass fiber. Other industries are meat freezing, wool scouring, tanning, saw and grist milling, dairying and manufacturing of clothing, boots and shoes, iron and steel.

The products from the small islands attached to New Zealand are copra, pearl shell, fruit, hats, and lime juice.

50. CITIES. Wellington, the capital, is in the southern part of North Island on an inlet from Cook Strait. Port Nicholson is its harbor. Auckland, once the capital, is

the largest city in New Zealand. Situated on a peninsula of North Island, it is a coaling station for steamers from San Francisco to Sydney. In South Island the chief cities are Christchurch and Dunedin. Port Chalmers, the port of Dunedin, accommodates large ocean steamers.

51. SOCIAL CONDITION. Redway, the geographer, says, "This colony is one of the most prosperous and best administered states in existence." The natives, known as Maori, are the most intelligent of all the island people. The settlers have upheld progressive standards in education, labor legislation, and all other essentials of welfare. Representative government is assured under a new constitution. The sovereign of England appoints a governor who is commander-in-chief of the army. The governor is assisted in the administration by a ministry of six members. The law-making power is a legislative council and a House of Representatives.

FIJI ISLANDS

52. A GROUP. More than 200 islands, many of which are of volcanic origin, north of New Zealand in latitude 16° to 19° south. More than 80 islands inhabited, but only two are large, Viti Levu or Naviti Levu and Vanua Levu or Vuya. The islands were ceded to Great Britain in 1874 by the native king. Many of the natives have become Christians.

53. SURFACE, SOIL, PRODUCTS. Some of the peaks are thousands of feet in height. Luxuriant foliage covers the islands and gives them pleasing and picturesque aspect. The soil is deep, yellow loam enriched by decayed vege-

table matter. This natural fertility is aided by plenty of water and good climate. The chief crops are bananas, cocoanuts, maize, sugar cane, yams, tobacco, tea, rice, peanuts, and pineapples. There are dense forests containing many valuable woods.

The islands have abundance of fruit: nine different kinds of bread-fruit, bananas, cocoa, shaddock, papaw apple, Tahiti chestnut, and six varieties of yam. The yam, a vegetable like the sweet potato, is the chief food of the people. Some yams weigh thirty to forty pounds. Sugar cane, cotton, tobacco, and turmeric are cultivated.

The exports are sugar, copra, green fruits, turtle shell, pearl shell, and beche de mer. The imports are dry goods, machinery, hardware, live stock, breadstuffs, lumber, oils, and iron.

54. SOCIAL WELFARE. The plantation laborers are natives, Indian coolies, and Polynesians. The progress of the natives has been remarkably rapid. All are under control of a governor, who is consul-general of the Western Pacific. The legislative council consists of six official and six unofficial members.

The capital is Suva, in the southeastern part of Viti Levu. Levuka, formerly the capital, is on a small island east of Viti Levu.

Forty thousand children attend school. Libraries, hospitals, and other institutions for welfare are provided.

NEW GUINEA

55. THE ISLAND. Papua or New Guinea is the second largest island in the world, Greenland being the largest. New Guinea has an area of more than 300,000 square miles,

or greater than the area of Texas. It has been divided by treaty among the Netherlands, Germany and Great Britain. The western half, as far as 141° east longitude, is under control of the Dutch. The eastern half is divided between the Germans and the British, Kaiser Wilhelm's Land in the north and the British protectorate in the south.

56. SURFACE. The coasts are rocky with mountains coming close to the sea, but in the neighborhood of Torres Strait the shore presents the appearance of a marshy flat covered with dense forests. In the interior there are still loftier mountains covered with perpetual snow and also volcanoes. In the southeast end Mount Owen Stanley rises to the height of 13,205 feet; farther west and near the north coast Mount Schopenhauer reaches 20,000 feet.

57. CLIMATE, PRODUCTS. Lying within the monsoon section, the island receives plenty of rain. Dense forests of tropical varieties cover the whole island. The average temperature is about 80° .

British New Guinea has many thousand acres leased to planters. The chief crops are cocoanuts, rubber, sisal hemp, coffee, Murva fiber, cotton, vanilla, kapok, tapioca, cinnamon, tea, and tobacco. There is much valuable forest land producing sago palm, sandalwood, cypress, ebony, gums, and rattan. Gold and copper are mined. The imports are foodstuffs, cloth, and hardwood; exports are copra, pearl shells, pearls, gold, copper, and trepang. Trepang, known also by the French name beche de mer, is a kind of sea-cucumber, which is favorite food with the Chinese. It is one of the exports to California and other places where the Chinese settled. The supply in New Guinea is becoming exhausted.

Port Moresby, the British center, has steam communication with several parts of Queensland.

58. PEOPLE. The natives are Papuans, dark-skinned people with curly hair. They live in villages but they are indolent. Their houses are frequently built on stakes or piles in rivers or seas. Their food is bananas, yams, coconuts, and other kinds which require no hard work in cultivation. Sugar cane and tobacco are cultivated.

59. RELATION TO AUSTRALIA. As New Guinea and Tasmania were formerly connected with the mainland of Australia, the plants and the animals are like those of Australia. New Guinea has birds with beautiful plumage, among which are birds of paradise. The head of the cassowary, a running bird, has a bony crest brilliantly colored.

MELANESIA

60. MEANING OF NAME. Melanesia means islands of the blacks. The name is applied to several small islands southeast of New Guinea, which islands are inhabited by Papuans.

61. BRITISH, FRENCH, GERMAN CONTROL. The desire for colonization is illustrated by the respective interests of those three European nations.

62. GERMANY controls the BISMARCK ARCHIPELAGO north of the eastern end of New Guinea. The Admiralty Group, New Britain, and New Ireland or New Pomerania or New Mecklenburg are the three principal islands. The SOLOMON ISLANDS, to the southeast, are jointly controlled by Germany and Great Britain by agreement made in 1885.

63. FRANCE controls NEW CALEDONIA and LOYALTY ISLANDS, and shares with Great Britain the control of the New Hebrides. The New Hebrides are wooded and hilly. Ebony and sandalwood are valuable forest woods; yams, bananas, sweet potatoes and cocoanuts are the chief products. The distinctive animal is a pig not larger than a rabbit.

New Caledonia, 700 miles east of Australia, was taken possession of by the French in 1853. The island is used as a place of banishment for French convicts and political offenders. At present the condemned are nearly 3,000 out of a total population of more than 50,000. NOUMEA, in the southwestern part, is a port of call for the French vessels on the way to Australia.

POLYNESIA

64. EXTENT. This name, meaning many islands, applies to all the small islands of the Pacific Ocean, excepting those already mentioned. Definite knowledge relating to the main groups is more important than the actual limit of the name Polynesia. In general, the limits are 30° each side of the equator, with longitude 135° east to 135° west.

65. TONGA OR FRIENDLY ISLANDS. A Polynesian group in the Pacific Ocean, a native kingdom controlled by Great Britain. The area is small, and only about one-fifth of the islands are of any importance. The most fertile island is Tonga-tabu, which has about one-half of the total population of the group. The rainfall is heavy, and the land area is covered with luxuriant vegetation. The land is

leased, not sold, and, as its tenure is not assured for any length of time, few improvements are made. Imports are foodstuffs, cotton goods, and draperies; exports are copra, fungi, and native mats and tapa.

Fiji Islands, in Polynesia, were treated in section 52 in connection with other British possessions.

CHAPTER V

OUR ISLANDS IN THE PACIFIC OCEAN

SAMOAN ISLANDS

66. LOCATION. East of the Fiji Islands; 2,000 miles south and 300 miles west of the Hawaiian Islands; 14° south of the equator. They are in an almost direct line between San Francisco and Australia, and they are slightly south of the steamship line by way of Panama Canal to the Philippines. Their special value is in their convenience as coaling and repair stations on the great highways of commerce. The old name, Navigator Islands, suggests this advantage of location, but the name is said to have been given on account of the skill shown by the natives in canoeing.

67. CONTOUR AND PRODUCTS. All the islands are volcanic and mountainous, with luxuriantly fertile coast lands and many mountains well wooded. The soil is well watered and drained. The staple product is copra; fruit is extensively cultivated, the production of cacao is increasing, and other products are taro, breadfruit, yams, cocoanuts, and bananas. The principal export is copra.

68. PARTITION. In 1889 the governments of United States, Great Britain and Germany agreed to divide the islands between United States and Germany, to guarantee the neutrality of the islands, and to assure equal rights of residence, trade, and personal protection. The United States received the islands of Tutuila with its excellent

harbor of Pago Pago, Ofu and Tau; Germany received Savaii and Upolu with the port of Apia, long noted for the export of copra, the dried kernels of the cocoanut. Pago Pago, the seat of the United States authority, has a naval station and a coaling station.

HAWAIIAN ISLANDS

69. A TERRITORY OF UNITED STATES. The Hawaiian Islands, formerly called Sandwich Islands, are a group in the Pacific Ocean 2,000 miles from San Francisco, and 4,000 miles from the Philippines. Area is nearly as large as New Jersey; population in 1910 was 191,909; capital is Honolulu on the island of Oahu.

70. SURFACE. Very mountainous. The mountain peaks of Mauna Kea and Mauna Loa, both 14,000 feet in height. Kilauea on the Mauna Loa mountain is the largest active volcano in the world. Its oval crater, 9 miles in circumference, is 6,000 feet above sea level. On account of its insular formation the coast line is extensive, but there are few good harbors. Pearl Harbor at Honolulu is the only important one. The rivers are few and unimportant. The soil is very fertile, being formed by the disintergration of the volcanic rocks and decay of vegetable matter.

71. CLIMATE. Though the islands are entirely within the tropics, the climate is mild on account of being tempered by the northeast trade winds which blow nine months of the year. The rainfall in the mountain region is abundant, but on the coast slopes rain seldom falls.

72. OCCUPATIONS AND PRODUCTIONS. Cattle and sheep are raised in large numbers on account of the excellent pasturage. The northern mountain slopes are covered with dense forests; sugar cane, Indian corn, coffee and wheat are cultivated on the plains. Tropical and semi-tropical fruits are grown, some of them by means of irrigation. Sugar is the chief product. It was cultivated on a small scale prior to 1876, when a treaty of commercial reciprocity with the United States went into effect. Under the provisions of this treaty an era of unexpected prosperity set in, and the production of sugar, as well as rice, increased rapidly. Large, barren tracts of land were brought into cultivation by extensive irrigation. Nearly 100,000 acres are under cultivation.

Rice is next in importance. It is cultivated by Chinamen who follow primitive methods. After the ground is plowed and harrowed, water is turned on and left until the submerged crop ripens.

"Coffee is cultivated, but not to a large extent, although Hawaiian coffee takes a high place among the best coffees of the world. The trees are grown anywhere from the sea level up to 3,800 feet above the sea. One of the greatest difficulties to contend with is insect blight, which is kept in check by peculiar parasites and ladybirds that have been introduced for each kind of insect. The cultivation of tea is carried on with good results, the best quality of leaf being obtained on the higher elevations. The high price of labor prevents its more extensive cultivation."

Hemp has been experimented with successfully. The expense of cultivation is trifling and the yield per acre is about $13\frac{1}{2}$ tons. Ramie, or vegetable silk, is grown,

but the industry is not developed owing to the lack of suitable machinery.

Alligator pears, bananas, limes, oranges and lemons are cultivated. The alligator pears grow to a large size, and the fruit is of a superior quality. The flesh is of buttery consistency, with a nutty flavor that makes a delicious dressing for salads. The largest of these is about six inches long and weighs upward of three pounds. The mango is grown and several varieties are used for making chutney. The best varieties were imported from India and Jamaica. The mango is an evergreen with small, glossy leaves. A gum which exudes from the trunk of the tree is used in medicine. It bears fruit several months of the year, and it is not unusual to find trees with fruit on one side and blossoms on the other.

Cocoanuts grow without cultivation. The sapodilla, soursop pommelo, cherimoya, custard apple, papaw, citron, watermelon, granadilla, pomegranate, and tamarind are some of the desirable fruits. Vegetables of many varieties are raised throughout the year. Pineapples grow wild on all the islands. The average weight of the fruit is 8 pounds, though the fruits of some varieties have been known to reach a weight of 17 pounds. The pineapple season is from the middle of the month of May to the middle of August. Bananas are raised in great quantities and shipped to the United States.

73. HISTORY. "The Hawaiian Islands were discovered by the Spaniards under Gaetano in 1549, examined by Captain Cook in 1778, and during the greater part of the 19th century formed an independent kingdom, recognized as such by the United States, Great Britain, France, and

other governments. In 1893 the reigning queen, Liliuokalani, was deposed, and a provisional government formed. This provisional government resolved itself into a Republic in 1894, with two Houses and a President. Several attempts were made toward the annexation of Hawaii to the United States, and on July 7, 1898, the Congress of the United States passed a resolution to that effect. On August 12, 1898, Hawaii was formally annexed to the United States. The islands, now known as the territory of Hawaii, are governed by a governor appointed by the President, and for military purposes are attached to the Military Department of California. All whites, natives of Hawaii, and persons of African descent who were citizens of Hawaii before the annexation, are citizens of the United States. The president of the provisional and republic governments and also the first governor after annexation was Sanford B. Cole."

74. ISLANDS AND CITIES. The inhabited islands are Hawaii, Maui, Oahu, Kauai, Molokai, Lanai, and Niihau. Honolulu, on the island of Oahu, is the commercial center as well as the capital. It is an active port for vessels from the principal cities on the Pacific. Regular steamship service connects Honolulu with China and Japan, and also with Vancouver, B. C., Seattle and San Francisco. The city has modern schools, churches, business equipment, and progressive tendencies.

Hilo is the chief port.

Pearl Harbor was deepened to accomodate the largest ships, and a naval station was established there.

75. COMMERCE. Most of the commerce is with the

United States. The exports are sugar, rice, coffee, fruit and hides. The imports are clothing, cotton textiles, flour, meats, lumber and machinery.

THE PHILIPPINE ISLANDS

76. AN ARCHIPELAGO. Nearly 2,000 islands; Luzon and Mindinao the largest, each equal to New York; population is nearly nine million.

This extensive archipelago was first visited by men of the white race in 1521. On the 12th of March in that year, Magellan, in his attempt to circumnavigate the globe, reached the little island of Malkon, near Samar. Fifteen days after the discovery, Magellan was killed by the natives of the island of Mactan. After his death his followers continued their voyage westward and succeeded in sailing around the globe.

In 1898 war was declared against Spain. Commodore Dewey attacked a Spanish fleet which was stationed in Manila Bay, Philippine Islands, and defeated it. Thus the Philippine Islands, which had been held by Spain since 1521, came under the control of the United States. In the settlement of the war, the United States paid Spain twenty million dollars for the islands.

77. PRINCIPAL ISLANDS. Luzon is the largest, has 40,855 square miles. Its principal city is Manila located on Manila Bay, where the Battle of Manila was fought.

Mindanao, the second in size, has many excellent harbors. Samar, Pinay, Negros, Leyte, Masbate, Mindoro, Pinay, Cebu, Bohol, Guam.

78. SURFACE. The interior is mountainous, with valleys and narrow plains, which broaden toward the coast. The drainage is a maze of rivers. It is a splendid agricultural area, but not yet fully developed. The valleys have deep soil enriched by decayed lava and vegetable matter. The mountains have heavy forests.

79. CLIMATE. Tropical. The thermometer registers 79° to 85° during July and August. Three seasons: temperate and dry from November to February; hot and dry from March to May; temperate and wet from June to October.

80. RESOURCES, INDUSTRIES AND PRODUCTS. Gold on Luzon, coal and petroleum on Cebu and Iloilo, and sulphur on Leyte. Lead, limestone, granite, and quartz are found. Agriculture is the chief industry, and products are manila, hemp, sugar, coffee, rice, fruits, tobacco, cacao, cocoanuts, indigo. There are wide areas of important forests containing valuable cabinet and other woods, timber, gums, dyewoods, spice growths, palm, and bamboo, these being under the supervision of the United States Forestry Bureau. Cattle, goats and sheep were introduced from Spain. Domestic pigs and chickens are seen everywhere. The carabao, or water buffalo, is the beast of burden; large horses are seldom seen, but native ponies are numerous.

The manufactures include cigars and cigarettes, fabrics of wool, henip, cotton, silk and pina fiber worked on hand looms. Imports are cottons, rice, meats, dairy products, cattle, flour, coal, iron and steel; exports are hemp, copra, tobacco, cigars, gums and raisins.

81. PEOPLE. The native races are the Negritos, the Visayas, and several subordinate tribes. In the course of time a large Malay population has come in, and also a large number of Chinese. Negro slavery was never introduced into the islands; hence, the African element is wanting. Most of the natives are Roman Catholics. Many dialects are spoken.

82. CITIES. The centers of world interest are Manila, on one of the finest harbors in the Pacific Ocean, Lipa, Batangas, Bauan, Cavité and Iloilo. Manila has railroad connection with Dagupan, and steamship connection with Seattle, Liverpool, Singapore, Japan, Hongkong and Australia.

83. GOVERNMENT. In the Philippine Islands the inhabitants are not citizens of the United States. The government provided by the United States Congress consists of a governor, together with eight commissioners, four Americans, three Filipinos, forming the upper branch of the legislature; and an assembly having not fewer than fifty nor more than one hundred members chosen by the people. The legislature holds annual sessions and elects two commissioners who reside at Washington. Education is provided under vigorous supervision, the system having nearly one thousand American teachers and seven thousand Filipino teachers. English is the language in all of the schools.

CHAPTER VI

THE EAST INDIES

83. **MALAY ARCHIPELAGO.** The Eastern or Malay Archipelago embraces all the islands southeast of Asia, excepting those belonging to China and Japan. Reference to the map will show the vast extent between the mainland of Asia and Australia. The control of the principal islands is held by Holland, Great Britain, Portugal, and the United States. Dutch control includes the greatest number, but study may be limited to Java, Sumatra, Celebes, Bali and Moluccas. The chief possessions not held by the Dutch are the Philippines, belonging to the United States, the British northern part of Borneo, the British island of Singapore, and the Portuguese part of Timor.

84. **EAST INDIES.** This name is sometimes applied to the whole archipelago named in section 83, sometimes to India or Hindustan, and, with clearer use, to the Dutch group comprising Borneo, Celebes, Java, Sumatra, and the Moluccas or Spice Islands. Recall the commercial routes in the time of Columbus, the capture of Constantinople in 1453, the western routes forced by fear of the Turks, and the naming of our eastern islands West Indies to distinguish them from East Indies.

BORNEO

85. **LOCATION.** An island larger than Texas and named as third in size, Australia and New Guinea pre-

ceding. Bounded on the east by the Sea of Celebes and the Macassar Strait; south by the Sea of Java; west and north by the Gulf of Siam and the China Sea. Its length is about 850 miles, with a breadth of 600, and an area of about 290,000 square miles. The population is estimated at more than 2,000,000.

86. NATURAL CONDITIONS AND PRODUCTS. British Borneo is north of the Madei Mountains; Dutch Borneo to the south. The lowlands are malarious and unhealthful; the north highlands vary from 81° to 91°. Nutmegs, cloves, cinnamon, pepper, betel, ginger, rice, millet, sweet potatoes, yams, cotton, sugar cane, indigo, tobacco, coffee, pineapples, and cocoanuts are cultivated. There are many monkeys, among which is the orang-outang. Tapirs, a small kind of tiger, small Malay bears, swine, wild oxen or banteng, and various kinds of deer abound. The elephant is found only in the north, and the rhinoceros in the northwest. The few domesticated animals are buffaloes, sheep, goats, dogs, cats, and a few horses. Among the birds are eagles, vultures, argus pheasants, peacocks, flamingoes, pigeons, parrots, and also the swifts, which construct the edible nests prized by the Chinese for making soup. Rivers, lakes, and lagoons swarm with crocodiles, and many kinds of snakes, frogs, lizards, and leeches. Fish is plentiful, and the coasts are rich in tortoises, pearl mussels, oysters, and trepang. Brilliant butterflies and moths are in great variety. The mineral products include coal, gold, and copper, antimony, iron, tin, platinum, nickel, diamonds and other precious stones, rock crystals, porcelain clay, petroleum, and sulphur. The principal exports are gold, gold dust, diamonds, coal, rattans, gutta

percha, edible nests, cotton, wax, timber, dye woods, mats, resins, sandalwood and camphor; the imports are earthenware, iron, steel, and copper work, piece goods, yarns, woolen and silk fabrics, medicines, provisions, wines, spirits, rice, sugar, tea, tobacco, opium, trepang, gambir, gunpowder.

87. PEOPLE. The population consists of three classes, the Dyaks or Dayaks, who are the aboriginal heathen inhabitants, and constitute the great bulk of the population, the Mohammedans or Malays; and the Chinese. The Dyaks live chiefly in the interior, and employ themselves with tillage and the collecting of gutta percha, resin, gums, rattans, gold dust, and wax. They are divided into numerous tribes. The Malays, traders and sailors, dwell on the coasts. They are more civilized than the Dyaks, cultivate the grounds around their houses, lay out gardens, keep cattle, and live partly by fishing. The Chinese, chiefly from Canton, have penetrated far into the interior.

88. CITIES. Sandakan in British Borneo in the north; Pontianak, Sambas and Sintang in Dutch Borneo.

CELEBES

89. CELEBES is east of Borneo. The island has four large peninsulas separated by deep gulfs. The climate is extremely healthful, and the soil is a bed of rich mould ten to fifteen feet deep. The exports are coffee, rice, sugar cane, sago, cotton, and bird skins. Gold, copper, tin and diamonds are found in limited quantities. The people are Mohammedans. Macassar is the capital.

JAVA

90. COMMERCIAL ISLAND. The most important of the Dutch group. Very fertile and prosperous, although its forty-three active volcanoes are the largest number on any equal area in the world.

"Java possesses a soil of astonishing fertility and a vegetation unrivalled in its luxuriance, ranging from the palms of the tropics to the mosses of the temperate zone. The coast is fringed with cocoanut-trees; behind them the ground rises gently to the foot of the mountain chain, and is completely cultivated. Javanese villages of bamboo houses, surrounded with hedges of fruit trees and bamboo, contrast agreeably with the vast fields of rice, artificially watered, and yielding often three harvests annually. Higher up than the rice fields the bases of the mountains are covered with vast forests of different species of the fig tree, remarkable for their great height and vigorous growth. About 5,000 feet above the sea may be seen *Padocarpus cupressus*, with its lofty, straight stem, a tree allied to the yew, and furnishing the best timber in Java; the Dammar pine, rhododendrons, and the *Dipteris* or two-leaved fern. Laurels of numerous species, chestnuts, oaks, melastomas, eugenias, magnolias, myrtles, numerous orchids, etc., grow still higher up the mountains. At an elevation of about 7,000 feet the vegetation changes its aspects, and mosses appear, which, with heaths, are the principal plants found on the loftier heights. Some plants grow vigorously on the brink of craters emitting sulphurous vapors, and ferns cover the edges of gulfs filled with boiling mud, and form a border of sulphurous marshes, their roots growing in the acid waters. The famed poison-tree, the

Upas, is a noted Javanese plant. Forests of teak cover a very extensive surface in thirteen of the provinces.

"Rice forms the staple food of the natives, and is raised in astonishing quantities. Coffee raised from Mocha seed is extensively cultivated, and, with sugar, forms one of the staples of the island, its export greatly exceeding even that of rice. Cotton of two kinds is grown, and considerable quantities are exported; and the cultivation of indigo, nutmegs, cloves, cinnamon, cochineal, pepper, pimento, tobacco, tea, and cocoanuts is carried on with success. The population is almost wholly agricultural; beyond a few large towns, it is distributed over the island in villages, each governed by a native chief of its own selection. Each family has its own portion of land, varying from half an acre to six acres. About a third of the cultivated ground is supposed to be thus occupied.

"The great bulk of the foreign trade is carried on through the ports of Batavia, Samarang, and Soerabaya, and is chiefly in the hands of the Dutch and Chinese.

"Public improvements in Java have lately been much extended. A good road traverses the island in its entire length; many forts have been constructed in the interior, and commercial stations planted in the southern part of the island. Regular steam communication is kept up with the leading eastern ports. About 210 miles of railway are in operation. Perfect religious toleration exists."

Batavia, in the northwestern part, is the capital of Dutch East Indies. Six miles away is a new harbor thirty feet deep. On the hillside south of Batavia is Bintenzorg, the sanitarium for Europeans, and the seat of the palace of the Governor-General.

SUMATRA

91. TOBACCO. An island as large as California. Noted for excellent tobacco which is used for covering cigars. Rice, coffee and pepper are other products. The exports are tobacco, coffee, spices, bamboo, gutta-percha, copra, gold dust and tin. Most of the people are Malays. The natives produce exceedingly clever gold and silver filagree work, also native fabrics and household utensils. Principal cities, Padang, Achin, Delhi, Benkulen, and Palembang.

92. THE WOODS OF JAVA AND SUMATRA. "In the woods of Sumatra and Java most of the trees exceed 100 feet in height. But the density of the vegetation is still more astonishing than the vigor of individual plants. In the struggle for space and air, plants of different kinds become piled one over the other. Teak, mango, fig, musa, sandal, ebony and other great trees are mingled with palms of endless variety and gigantic forms; while climbing plants, frequently canes, interwoven from tree to tree, bind the whole together and render the forest utterly impenetrable. The tendency to climb characterises the vegetation of the Archipelago. Stems a foot or more in diameter, and belonging to species which elsewhere grow without support, here twine themselves round the giants of the forests. The inexhaustive supply of great timber afforded by these woods is to the natives of far less importance than the cocoanut, the bamboo, and numerous slender palms which adorn the coasts."

MOLUCCAS OR SPICE ISLANDS

93. SPICES. Noted for cloves and nutmegs. Cotton, sugar cane, coffee and pepper are cultivated. From the

pith of the sago-palm a kind of bread is made for the chief food of the poor people. The minerals are sulphur and petroleum, porcelain, clays, tin, and coal. The exports to Europe are cloves, nutmegs, mace and sago; to China, trepang and edible birds' nests.

Amboyna is the capital.

CHAPTER VII

INFORMATION FOR PUPILS

94. CREEK. The term creek is used in United States and Australia to designate a small stream of water or a small river.

95. AUSTRALIAN COMMERCE. The chief exports are wool, gold and grain; the chief imports are manufactured articles, such as cotton goods, woolen goods, linen goods, clothing, iron, and products made of iron or other metals. What Australia needs, therefore, is factories. Would it be good business for Australia to manufacture her own wool instead of selling it?

96. BANANAS. The banana plant has a stem made by the uniting of leaves as they grow. The leaves are four to seven feet long. The banana grows everywhere within the tropical region. It begins to yield fruit soon after being planted, and continues yielding an average of a hundred pounds a year without any cultivation.

97. YAM. The yam is a climbing plant with tubers or underground stems from twelve to twenty inches long and four to six inches thick. The tubers are coarser and not so good as the sweet potato. The raw tubers are injurious, but they are nourishing food when roasted or boiled.

98. TARO. A species of tree fern cultivated for its tubers and leaves for food. The roots are cut into pieces

and stacked in the air to cure. This process of curing requires nearly a year. Then the roots are roasted and crushed. The crushing separates the flour from the woody fibers. In Hawaii the whole stem of a tree fern is often baked by the steam from volcanoes. Such baked stems are seasoned with salt and eaten.

99. ARROW-ROOT is derived from various sources. That which is distinguished as the true arrow-root is obtained from the rhizome of *Maranta*, a native of tropical America, but now cultivated also in the Old World. This arrow-root is chiefly obtained from Jamaica and the Bermudas. Other kinds are derived from India and elsewhere.

100. TAPIOCA is derived from the long tubers of the manioc plant, a native of Brazil, but now largely cultivated elsewhere in the tropics of the Old World as well as the New. The tubers, before being subjected to heat and pressure, are highly poisonous, but the meal, a granular substance derived from them, and known as tapioca, or cassava, according as its results from slightly different modes of treatment, is wholesome and nutritious. This meal forms a staple article of food among the people of Brazil, but it is imported chiefly from the West Indies, and from the East Indies by way of Singapore.

101. SAGO is obtained from the pith of palms which are cultivated in tropical countries, including Borneo, whence it is imported by way of Singapore in sacks made out of the leaves of the palm itself. So easy is the cultivation of the palm, and so simple the mode of preparing the sago from the pith, that ten days' labor is estimated to suffice for the obtaining of enough food from this tree

to last a man for a year. A single family is able to attend to a plantation containing 400 trees. West Indian sago is the produce of cycads.

102. **APTERYX**, a bird with feathers that look like hair. It is about the size of a hen. It is a running bird, not a flying bird. Home is New Zealand.

103. **ECHIDNA**, or porcupine anteater, is a mammal somewhat larger than a hedgehog. It has quills mixed with hair for a covering, a broad bill like a duck, but no teeth. It is nocturnal in its habits. It lives in burrows, as a woodchuck lives. It lays eggs but does not sit on them. The eggs are hatched in a warm pouch, and the young remain in the pouch until they are strong.

104. **EMU** is a bird without wings. It is a powerful and fleet running bird related to the ostrich. Its plumage is long and hairlike. The emu is hunted for the oil in its skin.

105. **CORAL**. "Coral is the name given to the skeleton of a whole group of marine animals; but the red or pink coral is the only one of great value in commerce, its value being due to its use in the making of trinkets and other ornaments. The coral industry is specially an Italian one, and its chief seat is Torre del Creco, at the base of Mount Vesuvius, in the Bay of Naples. Formerly the chief supplies of coral were obtained by diving in the Bay of Naples, as many as five hundred boats having often set out from Torre del Creco to carry on this fishery. The coral banks both in this bay and in the south of Sardinia, which are also within easy reach of the Torre del Creco fishermen, are being rapidly exhausted, and the fishermen are hence

deserting them for those on the coasts of Algeria, Tunis, and Tripoli, which are now more profitable. Coral is also obtained on the coast of Catalonia, round the Cape Verde Islands, in the Adriatic, especially on the east coast, and in other places. Besides the product of its own fisheries, Italy imports large quantities of unworked coral and exports not only coral ornaments, but also the raw material in a partially worked condition. A considerable quantity of coral is exported directly or indirectly to China, where it is used in the official dress of the mandarins."

106. PEARLS. "Pearls and mother-of-pearl are derived from various shells, especially of the oyster family, belonging principally to tropical seas. The mother is the internal part of the shell, and pearls are secretions of the same kind of matter round some small parasite or particle of inanimate foreign matter which acts as an irritant. Among the most noted pearl fishery banks are those in the Persian Gulf, in the Gulf of Manar (Ceylon), in the Sulu Archipelago, in the neighborhood of the Moluccas and the Aru Islands, in Torres Strait, and on the northwest coast of Australia, at Tahiti, and in the Gulf of California. Pearls are also obtained from various river shells, which are met with in many European rivers, including some of those of Scotland and the north of Ireland."

107. HORNS and HOOFS, which are principally employed in the making of combs, buttons and knife-handles, are most largely imported from the British East Indies.

108. "GUTTA-PERCHA is the hardened juice of several other tropical trees, but the chief supply in this case comes from the East Indies, especially the Malay Penin-

sula and the Dutch East Indies, Singapore being the chief place of export to Europe. The tree that yields the bulk of the supply is known to botanists as *Dichopsis Gutta*. Another kind is derived from another member of the same botanical family, a native of Guiana. Gutta-percha is used for many of the same purposes as caoutchouc, and is capable in many respects of similar treatment. Mixed with carbon, it can be readily vulcanised like caoutchouc, by the addition of sulphur, either to the soft or hard state. It is very largely employed in the making of telegraph cables as an insulator. At present the tree is mostly destroyed to obtain the juice, but this is not necessary. It may be tapped and preserved like rubber trees, and beginnings have been made with systematic planting in the Malay Peninsula, British North Borneo, and elsewhere."

109. **MERINO SHEEP** were introduced into Australia about the close of the eighteenth century, and care has been taken to propagate them. They have thriven admirably, and certain parts of Victoria and New South Wales now produce a wool unequalled for softness and lustre, and at the same time, unlike the original merino, very long in staple. This wool now commands the highest price in the London market. As the merino sheep, however, yields very poor mutton, the growth of the trade in frozen mutton has led to the raising of increasing numbers of sheep crossed with English breeds, yielding better mutton, and producing a different variety of wool.—Chisholm, page 206.

110. **MANILA HEMP.** Next in importance to jute among tropical fibres in European commerce is Manila hemp, so called from the chief place of export. It is

obtained from the long leaves of *Musa textilis*, a tree belonging to the same genus as the banana and plantain, found wild on the Moluccas and Philippine Islands, and cultivated chiefly on the latter. The fibre is from six to nine feet in length, and, being separated from the leaf entirely by the ill-paid hand-labor of the natives, is very cheap; and since, though more difficult to work and more brittle than hemp fibre, it is capable of being made into ropes of great tenacity and endurance, it is very largely exported for the purpose. Great Britain alone annually received this product direct from the Philippines to the value of more than \$500,000. A large amount is also imported by way of HongKong and Singapore. The finer fibres are woven by the natives of the Philippine Islands into delicate tissues, and in Europe they are likewise used (often in combination with silk) in making curtains, coverings and furniture, and other fabrics.—*Handbook of Commercial Geography*, by Chisholm, page 317.

CHAPTER VIII

QUESTIONS AND ANSWERS

AUSTRALIA

111. What waters bound Australia?

Answer. Australia is bounded on the north by Indian Ocean, Timor Sea, Arafura Sea and Torres Strait; on the east by Coral Sea, Pacific Ocean and Tasman Sea; on the south by Pacific and Indian Oceans; on the west by the Indian Ocean.

112. By what routes may one travel from New York to Sydney?

Answer. One may go easterly across the Atlantic Ocean, through the Mediterranean and Red Seas, then in a southerly direction across the Indian Ocean, and, after passing along the southern and southeastern coasts of Australia through the Indian and Pacific Oceans, reach Sydney; or by sailing in a southeasterly direction across the Atlantic Ocean, around the Cape of Good Hope, then almost directly east across the Indian and Pacific Oceans, and then northeast for a short distance, one may arrive at the port of Sydney, the largest and oldest city of Australia.

113. Why are the good harbors found only in the southeastern part?

Answer. As the coast of Australia is very regular, there are no good harbors for many miles. Owing to the sink-

ing of the land in the southeastern part, several excellent harbors have been formed.

114. What is the latitude of the northern part of Australia? Of the southern part? What, then, do you infer about the temperature of the continent?

Answer. Australia extends from 10° to 40° south latitude. The temperature varies with latitude and elevation but the climate has one general characteristic—it is warm and dry. Rain falls on the coast districts, mountains and table lands, but there is lack of water in the interior, where there is sometimes no rain for a year.

The northern part is tropical with two seasons, the wet and the dry. The central plain is a hot desert. The southern part, which is as far south of the equator as our North Central States are north of the equator, has a temperate climate, cooler in summer and warmer in winter than our states. The climate is healthful and highly favorable to physical and mental vigor.

115. How do the southeast trade winds affect the rainfall of Australia?

Answer. The southeast trade winds laden with moisture deposit copious rainfall on the eastern coast and on the seaward side of the eastern highlands. After crossing the mountains, these winds are devoid of moisture, and for this reason the interior and much of the greater part of the continent are arid or desert.

116. How does the rainfall affect the distribution of the population?

Answer. People have settled where the rainfall is abundant, principally along the coast. The eastern and the

southeastern parts are the best populated sections.

117. Why is there so little known of the interior of Australia?

Answer. There has been little exploration of the interior of this continent partly because of the desert and partly because of the lack of navigable rivers. Many of the streams end in salt lakes, dwindle into a chain of pools, or evaporate entirely in the dry climate.

118. Why have no large cities grown up along the banks of the Murray River, as along our Mississippi?

Answer. The Murray River is navigable only at times and then not throughout its length. A large sand bar at the mouth of this river prevents free navigation.

119. What is the porcupine grass? What are the salt bushes?

Answer. The porcupine grass is hard, wiry, and so spiny that passage through it is extremely difficult.

The salt bushes are, as the name indicates, bushes whose leaves taste of salt. They afford valuable forage for cattle, and for that reason they have been introduced into the southwestern part of the United States.

120. How does the foliage of the Eucalyptus resist evaporation? Of the Acacia?

Answer. The leaves of the Eucalyptus or gum tree are leathery and of firm texture. They grow vertically, turning only their edges to the sun's rays, and thus they avoid being dried up by the heat.

The leaves of the Acacia and of many other plants of

Australia have shrunk to thorns and are so hard that they resist the drying heat of the sun.

121. Describe the animal life of Australia.

Answer. Australia is the land of marsupials or pouch-bearing animals. They carry their young in a pouch. With the exception of the native dog and some mice and rats, all the four-footed animals of Australia are marsupial. Among these are the wombats which weigh about a hundred pounds, and whose flesh is food; the flying opossums, which by means of membranes stretched between the arms and legs are able to fly from branch to branch; and the kangaroos, which are valuable for their skin from which an expensive leather is manufactured.

There are two animals which are peculiar to Australia and which resemble birds in that they produce their young from eggs, the Echidna and the Platypus or Ornithorhynchus.

The birds are also peculiar, and among them may be mentioned the emu, the lyre-bird, and the mound-building birds, generally known as brush-turkeys. Then there is the laughing kooka-burra, a kingfisher, which utters a loud cry resembling idiotic laughter; the Australian eagle which makes great havoc among lambs; and many brilliantly colored birds.

In the seas are reptiles varying in size from thirty feet to one inch in length. Lizards are numerous, and there are many species.

Among the curiosities of insect life are the "walking-leaf" and the "walking-stick." The one so exactly resembles the leaf of a tree that it is difficult to detect the

difference, and the other resembles dry twigs of various sizes.

122. Why are the animals so different from animals in other parts of the world?

Answer. Australia is the only continent entirely surrounded by water, and is remote from the other continents. For this reason, animals from other places have been unable to migrate to Australia.

123. What effect did the discovery of gold have upon the development of Australian industries? Compare with the western part of the United States in this particular.

Answer. The discovery of gold in 1851 caused many thousands to migrate to Australia. As the vast number of people needed supplies, there was a demand for farm products. Many of the settlers turned their attention to farming and grazing with marked success.

The discovery of gold in California was attended by circumstances almost parallel. The gold-seekers needed food, and the demand was supplied by some thrifty settlers. Soon agriculture and grazing became very profitable occupations.

124. In which industry does the greatest wealth of Australia lie? How is it carried on?

Answers. The greatest wealth of Australia lies in her flocks of sheep. Climate and vegetation are such that wool of the finest quality in the world is sheared from the merino sheep.

In the early days of the sheep-raising industry, the sheep were allowed to roam over the unfenced government

lands, as in western United States, but now the land is fenced and divided into ranches or runs.

125. Where is farming the chief occupation?

Answer. Farming is carried on where the rainfall is sufficient and wherever irrigation is possible. While New South Wales and Victoria excel in agriculture, Queensland has many natural conditions which are very favorable. South Australia and Western Australia are developing on account of irrigation and railroad communication.

126. What are the chief farm products?

Answer. The farm products are as varied as the climate. In the south, oats, hardy grains and fruits of temperate lands are grown. Further north are large sugar plantations, and along the northern coasts oranges and tropical products are cultivated.

127. What important metals are found in Australia?

Answer. The most important metal is gold, found first in the alluvial deposits from slaty rocks, but later in the veins in the mountain rocks. Australia ranks among gold producing nations. Other metals found here are copper, silver and tin. Coal, iron, and limestone are found in New South Wales.

128. Describe the native Australian.

Answer. The native Australians are of medium stature, robust, and built more for activity than great strength. They are of a dark brown color, with large heads, broad projecting foreheads, and piercing dark eyes.

Because of the lack of food-producing plants native to this continent, the Australian was compelled to live chiefly

upon animal food, which was eaten partly raw; hence the art of making even rude cooking utensils was unknown among them. Because the climate was mild, and because he was obliged to move from place to place to gain a supply of animal food, the construction of his dwelling did not tax his ingenuity; a single strip of bark often sufficed for shelter. Neither was there native domestic animals fit for food. Consequently, the native Australian's advancement in civilization was hindered by circumstances.

129. What use did England make of Australia for a time?

Answer. For fifty years England used Australia as a place for exile for offenders and criminals.

130. What is meant by the Commonwealth of Australia?

Answer. The Commonwealth of Australia, the name given to the united colonies of Australia, was established in 1901. The commonwealth has a government similar to the government of Canada, and is independent of England in all matters except those which concern the British Empire.

131. Locate Melbourne, Sydney, Adelaide.

Answer. Melbourne, the second city in size, is situated in the southern part of Victoria on the shores of Port Phillip, a beautiful harbor.

Sydney, the oldest city in Australia, is situated in the eastern part of New South Wales. Its Domains and Botanical Gardens are renowned for their beauty. It is situated on Port Jackson, a harbor unsurpassed by any other in the world.

Adelaide is in the southeastern part of South Australia, of which it is the capital.

NEW ZEALAND

132. In what direction from Australia is New Zealand?

Answer. New Zealand is southeast of Australia.

133. To which of our states is New Zealand nearly equal in size?

Answer. New Zealand is a little larger than the state of Colorado. The general form of the country resembles the boot-shaped peninsula of Italy.

134. Describe the surface and formation of the two large islands.

Answer. Both islands are of volcanic origin. In North Island volcanic forces are still in operation, and the evidences of their presence are shown in the active volcanoes, and in the boiling and sulphurous springs. Earthquakes also occur. In South Island the traces of volcanic action are not absent, but are not so recent. There are glaciers among the mountains, and the springs are cold, as their waters are the melted ice of glaciers. The surface is greatly diversified, made up of mountains, tablelands, and valleys.

135. Tell what effect the presence of water on all sides has upon the temperature.

Answer. The presence of water on all sides of the islands causes the summers to be cooler and the winters to be warmer than they would be otherwise.

136. What are the important industries?

Answer. Farming, ranching, mining and manufacturing are the leading industries. Commerce with Great Britain is the result of these and other industries.

137. Describe the government.

Answer. The government has been established by the English people who have settled here. It is similar to that of Australia, and is considered one of the best governments in the world. Many of the Maoris, the native people, are civilized and are allowed representation in the legislature.

The four larger cities are Auckland and Wellington of North Island, Dunedin and Christchurch of South Island.

HAWAIIAN ISLANDS

138. Locate the Hawaiian Islands.

Answer. The Hawaiian Islands are southwest of San Francisco in the Pacific Ocean, nearly one-third of the distance from our western coast to the Philippine Islands.

139. What is the nature of the surface?

Answer. The islands are volcanic in origin and they still have active volcanoes. The islands are considered a submerged mountain chain.

140. Describe the climate.

Answer. The climate is warm all the year, the thermometer varying only a few degrees. There is abundance of rain in the northeast, but the southwestern parts are drier and in some places almost desert.

141. State leading facts in regard to the people and the industries.

Answer. The native Malays are intelligent like those of the Philippines. The foreign population consists of Chinese, Japanese, Portuguese, and Americans. The people are engaged in raising sugar, coffee, rice, and tropical fruits.

142. Why are these islands of special importance to the United States?

Answer. These islands have been under our control since 1898. Large quantities of coal are stored so that our ships on their way to the east may stop for a supply, or make necessary repairs.

143. Locate Honolulu and Hilo.

Answer. Honolulu is in the southeastern part of the Island of Oahu. Hilo is in the northeastern part of the island of Hawaii.

144. For what is the island of Molokai well known?

Answer. Molokai, which is thirty miles slightly southeast of Oahu, has a leper settlement at Kalawao. There Father Damien, whose early home was in Louvain, Belgium, made every sacrifice to improve the condition of those poor, unfortunate people. His efforts were most successful, but his life was the price as he, too, became a leper.

PHILIPPINE ISLANDS

145. How did the United States get possession of the Philippines?

Answer. During the Spanish-American War, Admiral Dewey took possession of the Philippine Islands for the United States. At the close of the war the United States paid Spain \$20,000,000 for them.

146. Describe the climate.

Answer. The climate is tropical, always warm, and sometimes the heat is excessive, especially in the regions remote from the ocean. There are two seasons, the wet occurring in the summer and the dry in the winter. As the climate is damp, the houses of the inhabitants are elevated for the sake of health.

147. State the chief facts about the inhabitants.

Answer. The islands are inhabited by the Negritos, a race of small, dark-skinned savages. They are descendants from the natives. Others are Malays, Chinese, Spaniards, and Americans.

148. Why are the natives unprogressive?

Answer. As the warm, damp climate is very oppressive, it is unfavorable to activity. Cocoanuts and bananas are obtained without effort, and other food plants are raised so easily that the natives do not exert themselves.

149. What is the best known export of these islands? From what is it made and how is it used?

Answer. Hemp is the best known export. It is made from the fiber of the wild plantain and is used principally for making rope.

150. How would you go from Batavia to Manila?

Answer. From Batavia, which is in the northwestern part of the island of Java, one would sail in a northeasterly

direction through Java Sea, South China Sea, and Manila Bay to Manila, which is in the southern part of the island of Luzon.

THE EAST INDIES

151. Locate the East Indies with reference to Australia and Asia.

Answer. The East Indies lie between Asia and Australia.

152. What is the formation of these islands?

Answer. The large islands are mountainous, and are of volcanic origin. The smaller islands are of coral formation, and many of them are but slightly raised above the ocean.

153. Name the five large islands and compare the size of each with some state or states of the United States.

Answer. The largest islands of the East Indies are: Sumatra, which is somewhat larger than California; Java, which has a greater area than New York; Borneo, which is larger than the New England and Middle Atlantic States together; New Guinea, which is larger than Texas; and Celebes, which has greater area than North Dakota.

154. What nations control these islands?

Answer. Sumatra, Java, the Celebes, and part of Borneo and New Guinea are Dutch colonies. The remaining part of Borneo is controlled by Great Britain. Great Britain controls also that part of New Guinea which lies nearest to Australia. Germany controls a part of New Guinea. Timor is controlled by New Netherlands in the south, and by Portugal in the north.

155. What are the principal products exported from these islands?

Answer. The principal exports are valuable woods, gums, rubber, camphor, rice, sugar, coffee and spices.

156. Locate Batavia.

Answer. Batavia is in the northwestern part of the island of Java on Java Sea. It is the center of the Dutch colonial government.

SMALLER ISLAND GROUPS

157. Where are the Samoan Islands?

Answer. The Samoan Islands are southwest of the Hawaiian Islands in the Pacific Ocean.

158. Which important one belongs to the United States? Of what value is it to us?

Answer. Tutuila is owned by the United States and is valuable to us as a coaling station.

159. Locate Guam.

Answer. Guam is one of the Ladrones, an island group east of the Philippines.

160. How did the United States get possession of Guam?

Answer. At the close of the war with Spain, Guam became a possession of the United States.

161. What is the social condition of the natives of the Fiji Islands?

Answer. The Fiji Islands are about 1,200 miles due north from New Zealand. The natives are a copper colored race, tall and robust, with regular, expressive features. They are believed to be the finest specimens, intellectually

and physically, of the dark races of the islands of the Pacific. They were formerly cannibals but this practice does not now exist among them. They build good houses and are skillful in the construction and use of canoes. They manufacture pottery and cloth.

162. Name the principal food plants that thrive on the islands in the Pacific Ocean.

Answer. Breadfruit, yam, sweet potato, cocoa palm, tea, and sugar cane.

163. Where are the chief sources of tin?

Answer. The principal sources of tin are the Straits Settlements. The Islands of Banka and Billiton, of the Dutch East Indies, yield large quantities which are shipped to Holland, and then sold to other countries. New South Wales, Victoria and Tasmania are sources of supply for England.

164. Summarize islands, cities and mineral resources of the Philippines.

Answer. The summary is arranged in columns.

<i>Island</i>	<i>Cities</i>	<i>Mineral Resources</i>
Luzon	Manila, Lipa, Batangas	Coal, gold, copper
Mindanao.	Zamboanga	Coal, gold, copper
Samar	Catbalogan	Coal, gold
Negros	Bacolor	Coal
Panay	Iloilo	Coal, gold, petroleum
Leyte	Tacloban	Coal, petroleum
Mindoro	Calapan	Coal, gold
Cebu	Cebu	Coal, petroleum, gold

165. What New Zealand plant has a distinctive place in commerce?

Answer. "New Zealand flax, now called New Zealand hemp, since the fibre is much better adapted to the purposes of hemp fibre than to those of flax fibre. In this case the fibre is derived from the leaves, which are long and narrow like those of the yellow flag or iris. The plant grows very abundantly in New Zealand and is very easily cultivated, and as the leaves can be cut thrice a year without destroying the plant, it might be expected that the supply of the fibre would be plentiful. But the use of the fibre in manufactures is impeded by the difficulty in freeing it from a gum by which it is invested. Hence, excellent as the fibre is when prepared, the total amount exported from New Zealand and used in native manufactures is quite insignificant compared with the corresponding amounts of hemp and Manila hemp in the countries of their production."

166. To what extent is fishing carried on as an industry?

Answer. Of the fisheries in Asiatic and Australian waters, the only ones that need to be mentioned are the fisheries of Japan, and those of trepang in tropical seas. The waters surrounding the island of Hokushu in the north of Japan abound in salmon, cod, herring, and other food-fishes, the catching of which forms the principal industry of the inhabitants. Trepang, also known in commerce by the French name of *beche de mer*, is a kind of sea-cucumber, which is a favorite article of food with the Chinese, and is extensively fished for the Chinese mar-

ket on all the coasts of the Eastern Archipelago, on those of New Guinea and northern Australia, and round many of the tropical islands of the Pacific. It is likewise exported from China to distant countries in which Chinese are settled.

CHAPTER IX

REVIEW QUESTIONS WITHOUT ANSWERS

167. Locate Australia with reference to

1. Asia.
2. Continents.
3. Hemisphere.
4. Zones.

168. Name the continents in order of size.

169. Australia has regular coast line. Name two other continents with regular coasts, and two with indented coasts.

170. Draw outline of coast of Australia and write names of five indentations.

171. Name and locate four capes.

172. Locate the principal mountain ranges.

173. The surface of Australia. Write brief answers here.

1. Australia has _____ slopes:
2. The Dividing Range runs _____ and _____.

3. The central part is an extensive _____.
4. The principal river basin is _____.

Its principal branches are _____ and _____.

5. Two rivers flowing north are _____ and _____.

174. Define estuary.
175. Locate Lake Eyre. What Lake in the United States is similar to Lake Eyre?
176. Climate of Australia.
 1. Zones.
 2. Prevailing winds.
 3. Rainfall.
 4. Deserts.
 5. Why healthful?
177. Tell how the ocean currents affect the climate.
178. Briefly describe the Bushmen.
179. The vegetation of Australia.
 1. Describe tropical vegetation.
 2. Describe arid vegetation.
 3. Name five trees.
 4. The grasses.
 5. Tell how two plants adapted themselves to the conditions of climate.
180. Name the seasons in Australia.
181. When United States is having summer, what season in South Australia?
182. What is meant by the Commonwealth of Australia? What does the word commonwealth mean? How is the word formed? We speak of the Commonwealth of Massachusetts. Is your state a commonwealth?
183. Name, with capital of each, the six divisions or states of Australia.

184. Ranching is classed as a chief occupation.

1. What is the meaning of ranching? From what word is ranching derived? Is ranching a primitive word, a derivative word, or a compound word?
2. What three animals are raised for export?
3. What political divisions are noted for grazing? Why?

185. What does marsupial mean? Name one marsupial in America and two marsupials in Australia.

186. Make a list of ten wild animals in Australia. Which are useful to man and which are harmful?

187. The mineral resources. List five and tell how each has aided the development of the respective section or state.

188. "Refrigeration has stimulated the commerce of Australia."

1. What is the meaning of this declarative sentence?
2. Prove or disprove the statement.

189. Make a list of five exports.

190. What imports does Australia need? Why?

191. In speaking of exports and imports, you thought of agriculture. Write on this occupation in Queensland, New South Wales, and Victoria.

192. The shipping ports must be known. Start with Queensland and write in two columns the ports and the products of Australia. Are there ten important ports?

193. Name five cities which are not ports, and tell why each city is important.

194. Transportation by water is cheaper than transportation by land.

1. What river system is used for transportation?

2. Which is the best natural harbor? Name two other good harbors.

3. Which harbor was deepened for large ocean steamers?

4. Show why numerous coral islands are a hindrance in navigation.

195. Locate the Great Barrier Reef. Is it an aid or a hindrance to commerce of eastern Australia? Why?

196. Irrigation aids agriculture. In what province is irrigation by artesian wells used? Describe the vast irrigation by rivers in Victoria.

197. Show how irrigation aids ranching, mining, commerce, and general welfare.

198. Internal improvements include railroads, electric roads, canals, and other means of developing natural resources. Tell what advancement Australia has made in (a) railroads, (b) street cars for city service.

199. Manufacturing is developing. What are the products?

200. The people of Australia should make progress similar to the progress in Canada and United States. Give five reasons.

201. Is Australia a democracy? Prove your answer.

202. Sketch a map showing divisions, cities, products.

NEW ZEALAND

203. Locate New Zealand with reference to
1. Australia.
2. Latitude and longitude.
3. Surrounding waters.

204. How does New Zealand compare in size with New York State?

205. Describe the coast line of New Zealand.

206. Name two large islands of this group.

207. Give a short account of the Maoris.

208. By what means are the people of New Zealand governed?

209. List five occupations.

210. Ten exports.

211. Five imports.

212. Four cities.

213. Why are the people considered among the most progressive in the world?

214. What ports on our western coast have steamship connection with New Zealand? What products might be taken from this country and what products might be taken from New Zealand?

215. Tell use of each of the following:
1. New Zealand hemp.
2. Kauri gum.

FIJI ISLANDS

216. Locate the Fiji Islands with reference to
1. Australia.
2. Surrounding waters.

217. Describe the surface of these islands.

218. To whom do these islands belong?
What are the products?

HAWAIIAN ISLANDS

219. Locate the Hawaiian Islands with reference to
1. Australia.
2. North America.

220. Compare in size with New York State.

221. Name two islands of this group.

222. What are the occupations?

223. Soil and climate favor vegetation. Enumerate ten products that are valuable in commerce.

224. Honolulu is among the most desirable residential places in the world. Give reasons sustained by latitude, longitude, ocean environment, and trade facilities.

225. Describe the form of government.

226. Make a sketch map showing Seattle, San Francisco, Manila, Hawaii, Tutuila.

PHILIPPINE ISLANDS

227. Give a brief history of these Islands. Name three principal islands.

228. In what direction from this school are the Philippine Islands?

229. Point toward Manila.

230. PRODUCTS. Write after each topic the facts you think a pupil in your class should know.

1. Minerals.
2. Agricultural products.
3. Tobacco.
4. Woods.
5. Exports.

231. "Make the world safe for democracy."

Tell briefly what United States has done for education and government in the Philippine Islands.

EAST INDIES

232. By what nations controlled?
233. Name five islands commercially important.
234. Write a composition of not more than two hundred words on THE DUTCH EAST INDIES..

THE ISLANDS OF THE PACIFIC OCEAN

235. Point toward Guam.
236. *Ownership or control.* Write name of nation after each.
 1. Guam.
 2. Marshall Islands.
 3. New Hebrides.

4. Mindanao.
5. New Zealand.
6. Bismarck Archipelago.
7. Solomon Islands.
8. Loyalty Islands.
9. Fiji Islands.
10. Wake Island.
11. Sumatra and Celebes.
12. Hawaiian Islands.
13. Samoan Islands.
14. Borneo.
15. Luzon.
16. New Guinea.
17. Java.
18. New Zealand.
19. Molucca or Spice Islands.
20. Tasmania.

237. *Location of cities.*

1. Batavia.
2. Honolulu.
3. Apia.
4. Dunedin.
5. Hobart.
6. Manila.
7. Perth.
8. Pago Pago.
9. Christchurch.
10. Port Moresby.
11. Macassar.
12. Brisbane.

13. Sandakan.
14. Launceston.
15. Wellington.
16. Melbourne.
17. Auckland.
18. Seattle.
19. Adelaide.
20. Sydney.

238. *Straits.* Describe each by telling what is connected and what is separated.

1. Bass.
2. Cook.
3. Sunda.
4. Torres.
5. Macassar.
6. Malacca.
7. Foveau.

239. Association with source or place of production.

1. Trepang.
2. Yam.
3. Taro.
4. Banana.
5. Bread fruit.
6. Tobacco.
7. Coffee.
8. Spices.
9. Wine.
10. Fruits.

240. *Minerals.* Name chief sources.

1. Tin.
2. Gold.
3. Copper.
4. Coal.
5. Silver.

241. *Seas.* Location.

1. Arafura.
2. Celebes.
3. Coral.
4. Java.
5. Tasman.

242. *Birds.* Where found?

1. Emu.
2. Paradise.
3. Cassowary.
4. Brush turkey.
5. Lyre bird.
6. Apteryx.

243. *Meaning of words.* Bight, atoll, reef, protectorate, plumage, irrigation, artesian, boomerang, eucalyptus, saline.

244. How many miles from New York to San Francisco? From San Francisco to Manila?

245. Does the Congress of the United States have representatives from Hawaiian Islands and Philippine Islands?

246. Draw a line to represent the latitude of Honolulu and extend it across the map of United States. How

many degrees between this line and the line representing the latitude of your school?

247. Sketch a map showing ten island groups in the Pacific Ocean.

248. Name ten Pacific ports you would like to visit, and mention one interesting product you would bring back from each port.

249. What city is the capital of Tasmania?

250. Name five nations that own or otherwise control groups of islands in the Pacific Ocean, and designate the leading possessions of each.

Answer. United States, France, Germany, Holland, Great Britain.

UNITED STATES. Hawaiian Islands, Tutuila of the Samoan Islands, Guam, Midway Island, Wake Island, Philippine Islands.

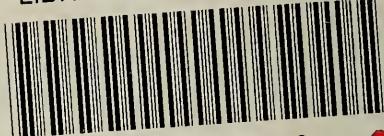
FRANCE. New Caledonia, part of New Hebrides, Society Islands.

GERMANY. Northeastern part of New Guinea known as Kaiser Wilhelm's Land, New Britain, New Mecklenburg, the Admiralty group, part of the group of Solomon Islands, Savaii and Upola of the Samoan Islands, Pelew, Caroline and Marshall Islands, Ladrone Islands.

HOLLAND. Borneo, Celebes, Sumatra, Java, Spice Islands.

GREAT BRITAIN. Australia, Tasmania, New Zealand, southeastern part of New Guinea, part of the group of Solomon Islands, Fiji Islands, part of New Hebrides Islands, Tonga.

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